Proposed Synopsis for Ph. D. Pre-registration Seminar

A Study of Death Anxiety, Hopelessness and Happiness among Cancer Patients undergoing Chemotherapy

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1.0 Introduction

1.1 State of the art

Cancer diagnosis and chemotherapy pose significant psychological challenges, including death anxiety, hopelessness, and fluctuations in happiness. Understanding these emotions is essential for comprehensive care and improved quality of life. Studies indicate that cancer patients undergoing chemotherapy face heightened death anxiety, influenced by factors like age, disease stage, and prognosis. Yalom's existential theory (2008) suggests that confronting mortality can lead to either despair or a meaningful life shift. Hopelessness is also common, stemming from the unpredictable nature of cancer and treatment side effects. According to learned helplessness theory (Seligman, 1972), patients who feel powerless are more prone to depression and poorer mental health. Despite these challenges, some patients experience moments of happiness and growth. Positive psychology highlights resilience, hope, and meaning-making as key factors in fostering well-being. Optimism, social support, and a sense of purpose can mitigate chemotherapy's emotional toll. Death anxiety, hopelessness, and happiness are interconnected, with higher anxiety and hopelessness often linked to lower happiness. Conversely, emotional resilience and a positive outlook reduce distress. Holistic care approaches, including positive psychology interventions (PPIs) like gratitude exercises, mindfulness-based stress reduction (MBSR), and meaning-centered therapy, can enhance psychological resilience and emotional well-being during treatment.

Conceptual Framework of the study

1.2 Death anxiety

Death anxiety refers to the intense fear or apprehension surrounding the awareness of mortality and the uncertainty about what happens after death. It can vary in intensity based on individual beliefs, health, age, and personal experiences. While Sigmund Freud suggested that death anxiety is an unconscious fear, Ernest Becker, in The Denial of Death (1973), argued that the awareness of mortality is central to the human condition, influencing much of human behavior. Irvin Yalom further expanded on this, suggesting that death anxiety arises from the

conflict between the desire to continue living and the inevitability of death, making it a central issue, particularly for those facing life-threatening conditions.

The causes of death anxiety are multifaceted, including existential, psychological, cultural, biological, and social factors. Existential causes involve the fear of the unknown, loss of identity, and awareness of mortality. Psychological causes stem from traumatic experiences, such as personal encounters with death, fear of suffering, and unresolved emotional issues. Cultural and religious causes are linked to beliefs about the afterlife, eternal judgment, or unresolved spiritual matters, while biological causes include health conditions, aging, and genetic predispositions. Social causes involve isolation, loneliness, and fears of being forgotten or not leaving a legacy.

Death anxiety manifests in various forms, categorized into different types. Existential death anxiety is rooted in the contemplation of mortality, while thanatophobia is the intense fear of one's own death. Fear of the dying process centers on physical and emotional aspects of dying, such as pain or loss of control. Other types include the fear of losing loved ones, annihilation anxiety (fear of non-existence), cultural and religious death anxiety, social death anxiety (fear of being forgotten), and health-related death anxiety, particularly in individuals with terminal or chronic illnesses. These types reflect the varying ways individuals experience and react to their fear of death, shaped by their psychological, emotional, and existential responses.

1.3 Hopelessness

The concept of hopelessness is deeply rooted in psychological theories, particularly Aaron Beck's cognitive theory of depression, which emphasizes negative thought patterns as a key factor in emotional distress. Hopelessness refers to a pervasive sense of despair and the belief that one's circumstances will not improve, leading to feelings of resignation and emotional suffering. It is a critical factor in various mental health conditions, particularly depression, and has been linked to an increased risk of suicidal ideation. In the context of serious illnesses such as cancer, hopelessness emerges when patients perceive their prognosis as bleak and feel powerless in altering the course of their disease or treatment outcomes.

Hopelessness in cancer patients arises from multiple sources, including the chronic nature of the disease, the unpredictability of treatment responses, and the fear of progression or recurrence. A terminal diagnosis or failed treatments can significantly contribute to the sense that there is no possibility of recovery or improvement. Additionally, cancer treatment often involves prolonged and physically exhausting interventions such as chemotherapy and radiation therapy, which can lead to fatigue,

chronic pain, and other debilitating side effects. These physical burdens can reinforce the belief that future suffering is inevitable, intensifying hopelessness. The loss of independence, disrupted daily life, and financial strain associated with prolonged medical care further contribute to feelings of despair. Hopelessness manifests in several psychological and behavioral patterns. Cognitively, it is associated with persistent negative thoughts, pessimism, and an inability to envision a positive future. Patients experiencing hopelessness often believe that their efforts, whether in treatment or daily life, are futile. This cognitive distortion can diminish motivation, making it difficult for individuals to actively engage in self-care, seek support, or adhere to medical recommendations. Emotionally, hopelessness is strongly linked to depression, anxiety, and emotional numbness. The overwhelming sense of despair can lead to withdrawal from social interactions, loss of interest in previously enjoyable activities, and difficulty finding meaning in life. Behaviorally, patients with high levels of hopelessness may display increased passivity, disengagement from treatment, and reduced adherence to prescribed therapies.

Several factors exacerbate feelings of hopelessness. Advanced-stage cancer, aggressive tumor progression, or resistance to treatment can intensify the belief that survival or recovery is unattainable. Additionally, poor communication from healthcare providers regarding treatment options and prognosis can contribute to uncertainty and despair. A lack of emotional and social support may further reinforce feelings of isolation, as patients struggling with hopelessness often feel disconnected from loved ones and caregivers. The psychological impact of hopelessness is profound, influencing not only emotional well-being but also treatment outcomes and overall quality of life. Patients experiencing severe hopelessness may exhibit diminished resilience, reduced ability to cope with stress, and increased vulnerability to mental health conditions such as major depressive disorder. The emotional distress associated with hopelessness can also lead to reduced adherence to treatment plans, potentially worsening the disease course. Furthermore, hopelessness is a well-documented risk factor for suicidal ideation in individuals facing chronic illness, underscoring the need for timely psychological interventions.

1.4 Happiness

Happiness among cancer patients undergoing chemotherapy is a nuanced and multifaceted concept, influenced by the interplay between the challenges of cancer

treatment and the patients' ability to find moments of joy, satisfaction, and emotional well-being. Despite the physical and emotional hardships associated with chemotherapy, understanding how happiness can be experienced and maintained is crucial for enhancing patients' quality of life.

Happiness in cancer patients undergoing chemotherapy can be understood as a subjective experience that includes emotional well-being, life satisfaction, and resilience and coping. Emotional well-being involves the presence of positive emotions such as joy, contentment, and peace, despite the ongoing challenges of cancer and its treatment. Life satisfaction refers to the sense of fulfillment and satisfaction with their lives, relationships, and personal achievements, even in the face of illness. Resilience and coping reflect the ability to find happiness through effective strategies, where patients adapt to their situation and maintain a positive outlook.

Several factors can contribute to happiness among cancer patients undergoing chemotherapy. Strong social support from family, friends, and support groups can enhance emotional well-being, as feeling loved, understood, and supported provides comfort and increases happiness. Maintaining a positive outlook and focusing on aspects of life that bring joy and meaning can significantly impact patients' happiness, with optimism and hopefulness playing crucial roles. Engaging in activities that improve quality of life, such as hobbies, interests, and meaningful interactions, can contribute to happiness by providing pleasure in daily activities and small joys. Additionally, managing symptoms and side effects of chemotherapy effectively can improve patients' comfort and overall sense of well-being, thereby contributing to happiness.

Several challenges may affect the experience of happiness in cancer patients undergoing chemotherapy. Physical discomfort from side effects such as fatigue, nausea, pain, and changes in appearance can significantly impact emotional well-being and reduce the capacity for happiness. Psychological stress related to managing a serious illness, including concerns about prognosis, treatment efficacy, and impact on life plans, can overshadow moments of happiness and contribute to emotional distress. Social isolation, often resulting from cancer treatment, can reduce opportunities for social interactions and support, negatively affecting happiness.

Addressing the interrelationship between death anxiety, helplessness, and happiness involves a holistic approach. Psychological interventions, such as cognitive-

behavioral therapy (CBT) and mindfulness-based therapies, can help patients manage death anxiety and helplessness while promoting happiness. These therapies aim to reshape negative thought patterns, enhance coping skills, and foster a positive outlook. Providing strong social support and creating opportunities for patients to connect with others can alleviate feelings of helplessness and reduce death anxiety. Support groups and social networks offer emotional reassurance and practical assistance, contributing to a greater sense of happiness. Empowering patients to participate in their care and make informed decisions can enhance their sense of control and reduce feelings of helplessness, also contributing to a more positive outlook and improved overall happiness. Additionally, integrating supportive care practices, such as palliative care and complementary therapies, can address both physical and emotional needs, improving quality of life and reducing anxiety and helplessness. In summary, the interrelationship between death anxiety, helplessness, and happiness is intricate and interconnected. Each factor influences and is influenced by the others, affecting patients' overall well-being. Understanding these dynamics and implementing comprehensive strategies can help improve emotional resilience, enhance quality of life, and foster a more positive and fulfilling experience for patients facing serious illness.

Review of literature

A review of related literature provides the investigator with a comprehensive understanding of previous work in a particular field. It helps in the investigator gain insights neccessary to refine and specify their research problem. A brief review of the literature is organized under the following headings:

1. Studies related to death anxiety among cancer patients undergoing chemotherapy.
2. Studies related to helplesness among cancer patients undergoing chemotherapy.
3. Studies related to happiness among cancer patients undergoing chemotherapy.

Studies related to death anxiety among cancer patients undergoing chemotherapy

Cancer diagnosis and chemotherapy treatment are known to provoke significant psychological stress in patients, including heightened death anxiety. Death anxiety refers to the apprehension and fear of one's own mortality, which can become particularly pronounced in the context of a serious illness like cancer. This review explores recent studies on death anxiety among cancer patients undergoing

chemotherapy, focusing on its prevalence, contributing factors, and implications for patient care.

Shakeri et al. (2024) conducted a systematic review and meta-analysis to examine death anxiety among Iranian cancer patients. Five academic databases (Scopus, PubMed, ISI, MagIran, and Scientific Information Database) were searched,resulting in 396 articles. After applying inclusion criteria, 23 eligible studies were included in the analysis. The Cochrane Q test and I2 test were used to assess heterogeneity among the selected studies. The meta-analysis found that 59.91% of Iranian cancer patients experienced significant levels of death anxiety (95% confidence interval: 51.57-62.24). Subgroup analysis revealed a higher percentage of death anxiety scores in patients with breast cancer (67.55%, 95% CI: 56.50–78.60) compared to those with other malignancies (53.78%, 95% CI: 50.20–57.36). Overall, the findings suggest that death anxiety is prevalent among Iranian cancer patients.

Soleimani et al. (2020) conducted a systematic review and meta-analysis to estimate the rate of death anxiety and its influencing factors in cancer patients. Five academic databases (Scopus, PubMed, Science Direct, Embase, and ProQuest) were systematically searched from their inception to January 2020. Observational studies, regardless of language, were included if they reported the mean score of death anxiety in cancer patients. The Newcastle-Ottawa Scale assessed the methodological quality of the included studies. A random-effects meta-analysis using the DerSimonian and Laird weighted method was performed. Publication bias was evaluated using funnel plots and Begg's and Egger's tests. The analysis suggests that cancer patients experience moderate levels of death anxiety. Socio-demographic factors, including region, cancer type, sex, and marital status, influence the occurrence of death anxiety.

Sharpe et al. (2018) conducted a research study on fear of cancer recurrence (FCR) and death anxiety. Their findingsrevealed that three systematic reviews published in 2013 consistently identified FCR as a prevalent and significant concern among cancer survivors, even years after treatment. However, only one of these reviews investigated the relationship between death anxiety and FCR. This was surprising given the well-established connection between cancer diagnoses and existential issues, which often lead to psychological sequelae like intrusive thoughts about death and post-traumatic symptoms. Additionally, recent research outside the cancer literature has proposed

death anxiety as a transdiagnostic construct underlying various anxiety disorders, even in healthy individuals. Yet, the relevance of death anxiety to FCR remains unexplored. Furthermore, determining whether death anxiety underlies FCR could have significant clinical implications, potentially optimizing existing evidence-based treatments.

Bastani et al. (2016) conducted a cross-sectional (descriptive correlational) study to evaluate death anxiety in elderly patients with cancer undergoing chemotherapy. A total of 130 elderly patients were recruited using a convenience sampling method. Data were collected using a demographic information form and Templer's Death Anxiety Inventory.Descriptive statistics and statistical tests were performed using SPSS 21. The results showed that 42.3% of the elderly patients had high death anxiety. However, the mean death anxiety score (6.85 ± 2.7) fell within a desirable range. The study identified significant correlations between death anxiety and several variables, including age ($p < 0.001$), marital status ($p < 0.012$), education level ($p < 0.001$), cancer type ($p < 0.023$),duration of cancer diagnosis ($p < 0.018$), and presence of comorbid diseases ($p < 0.001$). Therefore, elderly patients with lower age, higher education level, married status, shorter duration of cancer diagnosis, and no underlying diseases reported lower levels of death anxiety.

Ali et al. (2014) conducted a study on fear of death, depression, and coping among cancer patients. A sample of 60 cancer patients from Apollo BSR Hospital, Bhilai (O.G.) was randomly selected. Fear of death and depression levels were measured using the Fear of Personal Death Scale and Beck's Depression Inventory (BDI), respectively. The Cope Scale assessed coping strategies. The study found that 21.7% of patients had fear of death, while 46.7% experienced moderate depression followed by mild (38.3%). Cancer patients employed emotion-focused coping ($M = 11.22$) more frequently than problem-solving coping ($M = 8.82$). Significant gender differences were observed in fear of death and depression ($p < .05$), with females reporting higher levels. Different treatment groups also exhibited varying levels of depression. Patients receiving both radiotherapy and chemotherapy reported higher depression rates (26.7%) compared to those receiving only chemotherapy (20%). The study highlights the significant prevalence of fear of death and depression among cancer patients, influenced by gender and type of treatment.

Studies related to helplesness among cancer patients undergoing chemotherapy.

Iskandar et al. (2021) conducted a qualitative systematic review. PsychInfo, PubMed, and CINAHL were searched for relevant studies. The methodological quality of these studies was independently assessed using the Critical Appraisal Checklist from the Joanna Briggs Institute (JBI). A meta-aggregative approach was employed to analyze and synthesize the data, focusing on how individuals with cancer perceive suffering throughout their illness trajectory. The results include a synthesis of twelve articles reporting the experiences of 230 participants, from which three synthesized findings emerged: (i) Suffering the loss of normality: cancer affects individuals' normal life activities, leading to a loss of normalcy; (ii) Suffering in relation to others: patients' suffering impacts, and is impacted by, those around them; and (iii) Existential suffering: suffering affects individuals' overall sense of being, with feelings of hopelessness and mental anguish often leading patients to contemplate death.

Kahraman et al. (2020) conducted a study titled "Having Metastatic Cancer as a Young Adult: A Qualitative Examination of Self-Discrepancy." The study aimed to explore the self-concept and the discrepancies between various aspects of the self in young adult patients with metastatic cancer. The sample consisted of eight female patients, aged between 27 and 38 years. Semi-structured interviews were conducted, and the transcripts were analyzed using the Interpretive Phenomenological Analysis (IPA) method. Four key themes emerged from the results: ‘Compulsory Changes in Self-Concept with Ambivalent Evaluations’; ‘New Ideals not in the Agenda of a Healthy Young Adult’; ‘Others’ So-Called Minimalist Expectations’; and ‘My Body is a Cage: “I Feel Like My Soul is Stuck in My Body”.’ These findings were discussed in the context of existing literature, with a focus on clinical implications.

Liu et al. (2020) studied the topic of learned helplessness (LH) among patients with lung cancer. The study aimed to determine the level of LH in these patients and identify factors associated with it. From August 2022 to March 2023, 237 lung cancer patients from Chongqing University Cancer Hospital were selected for the study. A general information questionnaire, the LH scale, the Brief Illness Perception Questionnaire, the Strategies Used by People to Promote Health Questionnaire, the Medical Coping Modes Questionnaire, and the Self-Esteem Scale were used for the investigation. Multiple linear regression was employed to identify factors influencing LH in lung

cancer patients. The results indicated that the LH score in these patients was at a moderate level. Illness perception, self-efficacy, and a resignation coping mode were found to significantly impact LH among patients with lung cancer.

Mystakidou et al. (2005) aimed to compare advanced cancer patients' responses to the Hospital Anxiety and Depression (HAD) scale with those to the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30, version 3.0), as well as to assess the impact of quality-of-life dimensions (as measured by the EORTC QLQ-C30) on the levels of anxiety and depression. The analysis, conducted with 120 advanced cancer patients, showed that the most significant associations were found between emotional functioning and HAD-T (total sum of scores) ($r = -0.747$; $p < 0.0005$), HAD-A (anxiety), and HAD-D (depression) ($r = -0.553$; $p < 0.0005$). In the prediction of HAD-T, the contribution of physical, emotional, role, and social functioning, along with nausea-vomiting, dyspnea, sleep disturbance, and gender, was significant. For anxiety, the predictor variables included physical, role, cognitive, emotional, and social functioning, followed by dyspnea, sleep disturbance, and appetite loss, while depression was predicted by physical, role, emotional, and social functioning, symptoms of nausea-vomiting, pain, sleep disturbance, constipation, as well as age, gender, anticancer treatment, and performance status.

Studies related to happiness among cancer patients undergoing chemotherapy

Wu et al. (2024) aimed to examine the effect of a positive emotion-based exercise intervention on quality of life (QOL), fatigue, and mental health status in patients with lung cancer undergoing chemotherapy. A total of 80 patients with lung cancer undergoing chemotherapy were selected and divided into an observation group and a control group, with 40 patients in each group. The researchers assessed patients' quality of life, fatigue, and mental health at the time of recruitment and 12 weeks after the exercise intervention. After the intervention, patients in the experimental group had a higher overall QOL score than those in the control group, with statistically significant differences in physical, role, and emotional aspects. Additionally, patients in the experimental group experienced less fatigue than those in the control group, with statistically significant differences between the two groups. Moreover, the experimental

group had lower scores in depression and anxiety compared to the control group after the intervention.

Heydari et al. (2023) examined the effectiveness of group positive psychotherapy (PPT) on the psychological well-being and hope of cancer patients undergoing chemotherapy. This single-blind clinical trial used a pretest-posttest design with experimental and control groups. The study population included all patients at Taleghani Hospital in Tehran in 2020. Thirty patients were selected through purposeful sampling and randomly assigned to experimental and control groups. The experimental group attended six weekly PPT sessions, while the control group received no intervention. Data were collected using demographic forms, Ryff's Psychological Well-Being Scale (RPWBS-18), and Snyder's Hope Scale (SHS-12). The results, analyzed through Chi-square and ANCOVA tests using SPSS-20, showed that PPT significantly improved psychological well-being ($F = 9.29$) and hope ($F = 8.28$) in cancer patients ($P<0.01$). The effect size of PPT was 29% for psychological well-being and 27% for hope. These findings suggest that PPT is effective in enhancing the psychological health of cancer patients.

de Camargos et al. (2020) conducted an exploratory analysis comparing happiness levels between cancer patients, informal caregivers, and the general population. This cross-sectional study recruited participants online from five regions of Brazil via Facebook and WhatsApp, with surveys completed on SurveyMonkey. A total of 2580 participants were included: 2112 from the general population, 342 cancer patients, and 126 informal caregivers. The multivariate analysis showed that cancer patients and caregivers reported higher happiness levels than the general population, even after adjusting for age, sex, education, and income. However, both groups had lower positive affect scores and higher negative affect scores. While overall conditions for happiness and life satisfaction were similar across groups, cancer patients and caregivers reported greater happiness and satisfaction despite experiencing more daily challenges and suffering.

Ustundag et al. (2015) conducted a descriptive and cross-sectional study titled "Factors Affecting the Quality of Life of Cancer Patients Undergoing Chemotherapy: A Questionnaire Study" to determine the factors influencing cancer patients' quality of life. They collected data from 352 chemotherapy patients at an

Outpatient Chemotherapy Unit in a state hospital. The authors included voluntary chemotherapy patients who had signed informed consent and had at least 50 Karnofsky Performance Scale points. Data were gathered using a Personal Information Form and the Nightingale Symptom Assessment Scale (N-SAS) and analyzed through basic descriptive statistics and linear regression analysis. The results showed that most patients were women (54.8%), married (83.5%), elementary school graduates (57.1%), housewives (44.6%), and receiving fluorouracil-based therapy (47.2%). Women had worse physical and social well-being than men, and singles had worse psychological and general well-being. Housewives also experienced poorer physical and social well-being. No significant relationship was found between education level and quality of life. Breast cancer and sarcoma patients had lower social well-being. Religious practices did not affect N-SAS scores, but patients with poorer quality of life engaged in lead pouring and used amulets. Gender was the main factor influencing quality of life.

Oliveira et al. (2013) examined cancer, health literacy, and happiness from the perspectives of patients undergoing chemotherapy. The aim was to analyze the perceptions Portuguese cancer patients have about their health status while undergoing chemotherapy, their satisfaction with the information related to their health, their level of happiness, and their outlook on the future. An observational, cross-sectional, and descriptive study was conducted. Data were collected between May and July 2012 at the day hospital of a central hospital in northern Portugal. The sample consisted of 92 cancer patients who were asked to complete a questionnaire during chemotherapy. The results indicate that, despite this life-threatening disease, patients consider themselves relatively happy and have an optimistic view of the future. Information about their health condition and religious beliefs were important coping mechanisms that helped them deal with the suffering caused by the disease.

Pandey et al. (2006) conducted a study titled "Distress, Anxiety, and Depression in Cancer Patients Undergoing Chemotherapy." A total of 117 patients were evaluated using the Distress Inventory for Cancer (DIC2) and the Hospital Anxiety and Depression Scale (HADS). The majority of the patients were undergoing chemotherapy for solid tumors. Results revealed that the mean distress score was 24, with 18 patients found to have anxiety, while 19 were diagnosed with depression. High social status was the only factor found to influence distress, while female gender was the only factor

found to influence depression in this study. The researchers highlight the high psychological morbidity in cancer patients and the influence of gender on depression.

2.0 Problem to be investigated

The present study will explore the relationship between Death Anxiety, Hopelessness, and Happiness among cancer patients undergoing chemotherapy. The investigator also intends to examine the effects of Gender (Male and Female) and Stage of Cancer (Early-stage and Advanced-stage). The topic of the study will be stated as "A Study of Death Anxiety, Hopelessness, and Happiness among Cancer Patients undergoing Chemotherapy."

3.0 Objectives of theresearch

1. To assess the levels of death anxiety, hopelessness and happiness, experienced by cancer patients undergoing chemotherapy.
2. To assess the degree of hopelessness felt by these patients during their treatment.
3. To assess the levels of happiness reported by patients undergoing chemotherapy.
4. To assess the correlations between death anxiety, hopelessness, and happiness in the context of chemotherapy.
5. To explore how demographic variables such as age, gender, and socio-economic status influence these emotional experiences (death anxiety, hopelessness, and happiness).

Motivation of the research

The motivation for conducting this research stems from the profound psychological impact that a cancer diagnosis and treatment have on patients. Chemotherapy, while a critical component of cancer care, often induces overwhelming emotional distress, leading to heightened feelings of death anxiety and hopelessness. These emotions not only affect patients' mental well-being but also influence their physical health and ability to cope with treatment. Cancer patients frequently face an uncertain prognosis,

making death anxiety a prevalent concern, which can intensify feelings of fear and loss of control. Hopelessness, often linked to the physical and emotional toll of chemotherapy, exacerbates patients' vulnerability. In contrast, the role of happiness and positive emotions in coping with such adversity is less explored, yet crucial for understanding how cancer patients navigate their illness. This study aims to investigate the relationship between death anxiety, hopelessness, and happiness to gain a more comprehensive understanding of how these emotional states interact and affect cancer patients' quality of life. By identifying these psychological dynamics, the research seeks to provide valuable insights that can guide the development of more effective emotional support strategies, enhancing patients' resilience and overall psychological care during chemotherapy.

4.0 Hypotheses

1. Cancer patients undergoing chemotherapy will experience high levels of death anxiety, hopelessness, and happiness.
2. Cancer patients undergoing chemotherapy will report a significant impact of death anxiety, hopelessness and happiness during their treatment.
3. There will be a significant difference between age, gender, socioeconomic status, marital status, and support system of patients undergoing chemotherapy.
4. There will be a significant negative impact of death anxiety, hopelessness, and happiness on patients undergoing chemotherapy.
5. There will be significant correlations between death anxiety, helplessness, and happiness among cancer patients undergoing chemotherapy, with higher death anxiety and hopelessness being associated with lower levels of happiness.
6. Demographic variables such as age, gender, and socioeconomic status will significantly influence the levels of death anxiety, hopelessness, and happiness experienced by cancer patients undergoing chemotherapy.

5.0 Research Design and Methodology

Sample

The sample will consist of adult cancer patients undergoing chemotherapy at oncology departments of private and government hospitals in Ranchi. Participants will be selected based on predefined inclusion and exclusion criteria to ensure the relevance of the sample to the research objectives. The study will use a purposive sampling method. Eligible patients will be approached during their treatment visits and will be invited to participate.

The study will aim to recruit 160 participants, depending on the availability of eligible patients, as the universe is also very limited thus sample size is limited.

Table 1

Sample Design

Gender	**Male**		**Female**	
Cancer stage	**Initial Stage**	**Last Stage**	**Initial Stage**	**Last Stage**
Age (30-50)	**20**	20	**20**	20
More then 50 years	**20**	20	**20**	20
Total	**40**	40	**40**	40
	80		80	
	160			

Variables

Independent variable

- Gender
- Stage of Cancer
- Age-range

Dependent variable

- Death anxiety

- Hopelessness
- Happiness

Selection criteria

Inclusion criteria

- Patients diagnosed with initial stage and last stage.
- Patients currently receiving chemotherapy treatment.
- Adults of age range 30 to 50 and more than 50 years.
- Patients must have the cognitive ability to understand and respond to survey or interview questions.
- Willing to provide informed consent to participate in the study.
- Ability to read, understand, and communicate in Hindi and English and those respondents who don't know english researcher will translate the questionnaire and will give the information.

Exclusion criteria

- Patients receiving non-chemotherapy cancer treatments (e.g., radiation or experimental therapies).
- Patients with severe psychiatric disorders (e.g., schizophrenia, bipolar disorder) affecting participation.
- Patients with cognitive issues (e.g., dementia, brain injury) hindering understanding or responses.
- Patients with serious non-cancer conditions (e.g., heart failure, renal disease) that may influence the study outcomes.
- Patients unwilling to provide consent.
- Patients unable to communicate in the study language.
-

6.0 Sources of Data and Tools to be used in collection of data

6.1 sources of Data

Data required for the present study will be collected from two major sources: primary and secondary. The majority of the data will be obtained through primary sources. Primary source information will be collected from various cancer hospitals and clinics in Ranchi District. Data will be gathered directly from patients using structured tools such as questionnaires and interviews. Secondary source information will be collected from books, medical records, articles, and published literature, which will provide a variety of information regarding death anxiety, helplessness, and happiness among cancer patients undergoing chemotherapy.

6.2 Tools used for the data collection

1. Personal Data Questionnaire (PDQ)

This questionnaire was designed by the researcher to gather personal information from the subjects, including their name, age, gender, marital status, educational qualification, occupation, socioeconomic status, type and stage of cancer, duration of chemotherapy, medical history, support system, living arrangement, any previous history of psychological disorders, and current medications.

2. Beck Hopelessness Scale

Hopelessness was assessed using the 20-item Beck Hopelessness Scale (BHS), developed by developed by Aaron T. Beck and colleagues in 1974. It is typically used for individuals aged 17 years and older, including adolescents and adults. The BHS was designed to measure three major aspects of hopelessness: feelings about the future, loss of motivation, and expectations. It evaluates hopelessness by assessing participants' negative expectancies regarding future events. Each item is scored as either 0 (hopeful) or 1 (hopeless), resulting in a total BHS score that ranges from 0 to 20, with higher scores indicating greater hopelessness. Beck and Steer (Beck et al., 1988) categorized the scores as follows: 0-3, minimal hopelessness; 4-8, mild hopelessness; 9-14, moderate hopelessness; and 15 and above, severe hopelessness. The scale's internal consistency ranged from 0.82 to 0.93.

3. Thakur Death Anxiety Scale (TDAS)

This scale was developed by Thakur and Thakur (1984) was used to measure death anxiety. The age range was 18 to 80. This scale is a reliable and valid measure of death anxiety. The internal consistency reliability co-efficient using K-R formula is reported to be 0.78, and test-retest reliability coefficient with a gap of 12 weeks is reported to be 0.86. The validity co-efficient of TDAS with Templer's death anxiety scale is reported to be 0.75 and with Mc. Mordie death anxiety scale is reported to be 0.78.

4. Happiness Scale (HS–MVDU)

ThisThis scale was developed by Vaishali Marathe and Upinder Dhar (1984) to measure happiness levels among individuals. The scale is designed to assess subjective happiness based on several psychological and social factors. It consists of 25 items, categorized into four distinct factors: Positivity, Supportive Approach, Healthy Relationships, and Feeling Responsible. These factors reflect key components of an individual's overall well-being and sense of happiness. The age range for the scale is 25 to 65 years, and it was administered to a sample of 480 respondents. The scale is available in both Hindi and English versions.

7.0 Plan of analysis

The following statistical analysis will be used to analyze the obtained data:

1. Descriptive statistics (mean) will be used to assess the central tendency and variability of death anxiety levels.
2. Descriptive statistics (mean) will be used to summarize the levels of hopelessness.
3. Descriptive statistics (mean, median, standard deviation) will be used to evaluate happiness levels.
4. Percentages will be calculated to represent the distribution of death anxiety, hopelessness, and happiness levels among cancer patients undergoing chemotherapy.
5. Pearson or Spearman correlation analysis will be used to assess the relationships between death anxiety, hopelessness, and happiness.
6. T-tests will be used to compare the mean scores of death anxiety, hopelessness, and happiness between different groups.

7. Chi-Square test will be used to examine the association between categorical variables (e.g., gender, marital status) and the levels of death anxiety, hopelessness, and happiness.
8. Multiple regression analysis or analysis of variance (ANOVA) will be used to determine the influence of demographic variables on death anxiety, hopelessness, and happiness.
9. Graphical representation of results will be provided as required.

8.0 Significance of the study

The significance of the research titled "A Study of Death Anxiety, Hopelessness, and Happiness among Cancer Patients Undergoing Chemotherapy" lies in its potential to address the critical emotional and psychological challenges faced by cancer patients during treatment. Chemotherapy is not only physically demanding but also emotionally taxing, often leading to increased death anxiety and feelings of helplessness, which can diminish a patient's quality of life. By exploring these emotional responses alongside happiness, the study seeks to understand how positive emotions can coexist with, or mitigate, the negative psychological effects of cancer treatment. This research is significant because it can provide valuable insights into the complex emotional landscape of cancer patients, shedding light on how these emotional states interact and influence their overall well-being. Understanding these dynamics is crucial for developing more comprehensive care strategies that address both the physical and psychological needs of patients. Furthermore, identifying factors that enhance happiness and reduce feelings of death anxiety and hopelessness can inform interventions aimed at improving mental health outcomes, fostering resilience, and promoting a better quality of life for cancer patients undergoing chemotherapy. In sum, the study has the potential to contribute to the enhancement of psycho-oncology practices, offering new ways to support patients emotionally and helping healthcare providers deliver more holistic, patient-centered care.

9.0 Its relevance to present day problem and needs of the society

In today's healthcare landscape, there is a growing recognition of the importance of addressing not only the physical but also the emotional and psychological aspects of

cancer treatment. Chemotherapy, a common and effective treatment for cancer, can lead to severe emotional distress, including heightened death anxiety and feelings of helplessness, which impact patients' overall well-being and their ability to cope with the disease.

The current societal needs include a more nuanced understanding of how cancer patients experience and manage their emotional states during treatment. As cancer survival rates improve, there is an increasing focus on improving the quality of life for patients, not just extending it. This includes addressing psychological challenges such as anxiety and hopelessness while also promoting positive emotions like happiness. By investigating the interplay between death anxiety, hopelessness, and happiness, this study addresses a crucial gap in understanding how these emotional factors affect patients undergoing chemotherapy. The findings could lead to more effective psychological support strategies, tailored interventions, and holistic care approaches that are essential in improving the mental health and quality of life for cancer patients. Furthermore, this research aligns with the broader societal push towards comprehensive cancer care, which encompasses mental health support and emotional well-being. It responds to the need for evidence-based practices that can be integrated into routine clinical settings to support patients' psychological resilience, ultimately contributing to a more compassionate and effective healthcare system.

10.0 Contribution to the existing knowledge

This study contributes to psycho-oncological research by examining the interplay between death anxiety, hopelessness, and happiness in cancer patients undergoing chemotherapy. It enhances the understanding of how these emotional states affect patients' quality of life and highlights the importance of addressing psychological factors in cancer care. The findings offer insights for developing targeted psychological interventions and support strategies to improve mental health outcomes. The research also emphasizes the role of cultural beliefs, demographic factors, and personal growth in shaping patients' emotional experiences. Overall, it provides valuable data for holistic, patient-centered care and informs future studies on emotional well-being in cancer patients.

11.0 Future work

Future research on the topic of death anxiety, hopelessness, and happiness among cancer patients undergoing chemotherapy could focus on several key areas to further expand the understanding of these emotional dynamics and improve patient care. Longitudinal studies could explore the progression of death anxiety, hopelessness, and happiness over time, tracking changes throughout the chemotherapy process and beyond. This would provide deeper insights into how these emotional states fluctuate and how patients' coping mechanisms evolve as treatment progresses. Additionally, intervention-based research could focus on testing specific psychological interventions aimed at reducing death anxiety and hopelessness while promoting happiness. Programs like mindfulness training, cognitive-behavioral therapy, and resilience-building exercises could be explored for their effectiveness in enhancing emotional well-being during chemotherapy. Exploration of cultural and regional differences could also be a vital area for future study. By comparing patients from different cultural backgrounds, researchers can better understand how beliefs and customs shape responses to illness and coping strategies. Incorporating family and caregiver perspectives in future research could examine the emotional states of family members and caregivers, providing a more holistic view of the emotional impact of chemotherapy on the entire family unit. Technological and digital interventions could be explored to see how mobile apps or telehealth services might support cancer patients in managing their emotions. Integrating psychological support into routine care via online platforms could offer accessible and scalable solutions for emotional well-being. Future research should also include patients undergoing different cancer treatments, such as radiation or immunotherapy, to understand how various medical contexts influence emotional responses. This would offer a broader perspective on death anxiety, hopelessness, and happiness across different types of cancer care. Personalized psychological care could also be an important area for future studies. By developing psychological care plans based on individual patient profiles, including factors such as age, gender, and socio-economic status, interventions could be tailored to meet the emotional needs of different patient groups. Finally, integrating biological markers of stress and emotional well-being, such as cortisol levels, could provide a more comprehensive understanding of the interaction between psychological and physical health, contributing to a biopsychosocial model of cancer care. By addressing

these areas, future work will deepen the understanding of emotional well-being in cancer patients undergoing chemotherapy, helping refine therapeutic approaches and support strategies aimed at improving both psychological and physical outcomes.

Tentative chapters

The research report for the proposed study will consist of the following six chapters:

Chapter 1:Introduction

Chapter 2: Review of literature

Chapter 3: Methodology

Chapter 4: Analysis of Data

Chapter 5: Summary and conclusion

References

Appendix

Note: The research proposal is tentative and may be modified based on the availability of data, tools and techniques.

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